

REMARKS/ARGUMENTS

- A. The Office Action rejected claims 1-2 and 4-12 under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Office Action rejected the claims because of the use of the terms “high” and “thin”. Appropriate amendments have been made to the claims to satisfy this rejection.

- B. The Office Action rejected claims 1-2 and 4-12 under 35 USC 103(a) as being unpatentable over Hanna in view of Farnworth as set forth in section 4 of the Office Action mailed 12/8/2005.

The Examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness.¹ If the Examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of non-obviousness.²

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure.³

Applicant respectfully traverses the § 103 rejection because the office action has not established a *prima facie* case of obviousness.

The Examiner claims that

any competent technician, let alone designer, would have been expected to figure in the thickness of a coating being applied over the exterior of the item, when calculating the size of the substrate to be coated.

¹MPEP Sec. 2143.

² Id.

³Id. (emphasis supplied)

Applicant respectfully objects to this statement as pure hindsight. The Examiner has not produced a reference that discloses this step but is instead relying on Applicant's disclosure. The Examiner has also not sufficiently identified the skill level of one of ordinary skill in the art that would make such a step obvious.

Second, the references do not teach or suggest all the claim limitations.

After manufacture of the object, Hanna does post-processing by rinsing in tech grade isopropyl alcohol for 1 hour before post-curing. Col. 9 lines 45- 52. Alternatively, Hanna cleans the manufactured object by ultrasonic cleaning in a bath of solvent such as isopropyl alcohol. The object is then wiped dry with paper towels before UV post-curing. Col. 10 lines 15-36. Clearly, these processes would remove any UV-curable resin left on the object from the manufacturing step.

In contrast, after manufacturing the object, without removing any UV-curable substance left on the object, Applicant coats the object with UV-curable substance and permits the UV-curable substance to drain off the object, leaving an uncured layer, then exposes the object to UV light to cure the uncured layer. No rinsing or ultrasonic cleaning is performed on the object before it is coated with a UV-curable substance to cure the uncured layer. Thus, UV-curable resin left on the object from the manufacturing process remains on the object before the object is coated with an additional layer of resin.

The steps in a method claim must be assumed to occur in the order in which they are listed:

The elements of a method claim are typically recited in the sequence in which the steps performed. If the claim does not expressly indicate that steps are performed simultaneously or in a different order than the sequence in which the elements appear, the reader of the claim will assume the steps are performed in the sequence of the appearance.⁴

Applicant takes advantage of the UV-curable substance left on the object from the manufacturing process and an additional coat immediately applied to the object to produce a gloss exterior finish on the object. The Examiner has not shown where the process of Hanna produces such a gloss exterior finish. In fact, it seems probable that Hanna's removal of the

⁴ Landis on Mechanics of Claim Drafting, 5th ed., § 4:3

UV-curable substance by rinsing with alcohol, ultrasonics, and wiping dry with paper towels, thus removing all of the UV-curable substance left over from the manufacturing process, would not produce the claimed gloss exterior finish after UV post-curing.

Farnworth also does not disclose the claimed method.

As discussed by the Examiner,

When Farnworth lift the structure in its final form from the stereolithographic polymer bath, instead of washing any unpolymerized resin from the crevices, they merely drain the excess polymer from the structure so as to leave a coating that fills the crevices... (emphasis added)

There is no disclosure in Farnworth of applying an additional coat of UV-curable substance to the structure and then permitting the UV-curable substance to drain off the structure, leaving an uncured layer on the ear shell. Because of this, Farnworth must go through additional steps of tilting the structure to provide an acute angle of incidence between an incident radiation beam and a side wall of the structure, and apply radiation to the crevice to polymerize at least the surface of a quantity of liquid photopolymer therein. Abstract. Applicant does not need to do this difficult step because Applicant's method coats the entire object with photopolymer and exposes it to UV radiation.

Thus, neither Hanna nor Farnworth disclose all steps of the claimed method.

Furthermore, combining Farnworth with Hanna would not have a reasonable probability of success, because Hanna removes any unpolymerized photopolymer by alcohol or ultrasonic cleaning and then wiping dry with paper towels. There would thus not be any unpolymerized photopolymer left in the crevices for the method of Farnworth to work on.

For the above reasons, Applicant respectfully requests the allowance of all claims.

Respectfully submitted,

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By: Nelson R. Capes
Nelson R. Capes (Reg. No. 37,106)
BRIGGS AND MORGAN, P.A.
2200 IDS Center
80 South Eighth Street
Minneapolis, MN 55402
Telephone: (612) 977-8480